ABSTRACT

Background:

Vascular Endothelial Growth Factor A (VEGF-A) is a fundamental regulator of tumour angiogenesis. Tissue VEGF-A can be assessed by immunohistochemistry using antibodies against VEGF-A on formalin fixed paraffin embedded tissue (FFPE) sections.

Aim and Objectives:

To study the expression of Vascular Endothelial Growth Factor A (VEGF-A) in tissues of Oral Submucous Fibrosis and Oral Squamous Cell Carcinoma by Immunohistochemistry (IHC).

Material and Methods:

Immunohistochemical detection of VEGF was done using polyclonal antibody and Poly Excel HRP/DAB chromogen detection system on 40 samples, which included Oral Submucous Fibrosis (OSMF-10 cases),Oral Squamous Cell Carcinoma (OSCC-20 cases) and the expression was compared with that of normal mucosa (10 cases). The positive control used for VEGF was human normal kidney.

Results:

The pattern of VEGF staining in all the cases (N=40) was cytoplasmic. All the cases of OSCC and OSMF expressed 100% positivity for VEGF expression and 70% of normal mucosa cases expressed positivity. Positive cytoplasmic VEGF in OSMF was seen in basal and suprabasal layers and in OSCC was seen in tumour nest cells. Periphery cells of cancer nests were more heavily stained than the central cells of cancer nests. Stromal staining was excluded for recording of positive expression.

Conclusion:

Thus, there is increased expression of VEGF in Oral Submucous Fibrosis and Oral Squamous Cell Carcinoma when compared to that of normal mucosa suggesting that VEGF may be used as a useful marker in the assessment of angiogenesis in OSMF and invasive OSCC. The analysis of VEGF expression could also help in early detection of tumours and thereby reducing the mortality and morbidity of oral cancer.

Key words: VEGF, OSMF , OSCC